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Biotechnology Notes

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Biotechnology Notes, a compilation of agency activities, news events, and upcoming meetings, is prepared for members of the U.S. Department of Agriculture's (USDA) Committee on Biotechnology in Agriculture (CBA) by USDA's Office of Agricultural Biotechnology (OAB).

INSIDE USDA

ABRAC IS BACK

The charter establishing USDA's Agricultural Biotechnology Research Advisory Committee (ABRAC) has been renewed for two years, effective May 24, 1994. The purpose of the ABRAC will continue to be to serve the Secretary of Agriculture through the Assistant Secretary for Science and Education in an advisory capacity with respect to policies, programs, operations, and activities associated with the conduct of agricultural biotechnology research and research-related activities.

ABRAC's duties include reviewing selected research proposals on genetically engineered organisms, evaluating the adequacy of information to be used by the Department in preparing environmental assessments, recommending additions and alterations to research guidelines and protocols, providing advice to Federal and state agencies, and providing information to the Institutional Biosafety committees.

ABRAC will be comprised of 15 voting members selected by the Secretary of Agriculture from universities, industries, foundations, and public interest groups. An announcement of membership will be made soon. Those selected will be knowledgeable in one or more of the following areas: recombinant-DNA research in plants, animals and microbes; food science; fisheries science; ecology-environmental science; agricultural production practices; biological containment and biological field release; laws and regulations; standards of professional conduct and practice; public attitudes; public health-epidemiology; occupational health and ethics; human medicine; and socioeconomic impacts. All staff and support functions will continue to be provided by the Office of Agricultural Biotechnology (OAB). An announcement of membership in ABRAC is expected soon by the Office of the Secretary.

The next ABRAC meeting will be announced soon. For more details, please call Alvin Young, ABRAC Executive Secretary, at 703-235-4419; Fax: 703-235-4429.

APHIS BIOTECHNOLOGIST AWARDED FULBRIGHT

Sivramiah Shantharam, chief of the microorganisms branch at USDA's Animal and Plant Health Inspection Service, was awarded a Fulbright Lecture Fellowship to visit India from November 1993 to March 1994. He traveled around the country sharing the latest developments in the field of agricultural biotechnology. In particular, he discussed the environmental and biological impacts of genetically engineered organisms on the environment, molecular methods for gene tagging and monitoring microorganisms in the environment, and evaluating rhizobia under field conditions. He also conducted several workshops for government officials regarding risk assessment and was an official delegate to the Annual Indian Science Congress in Jaipur. To learn more about the visit and biotechnology in India, please call Shantharam at 301-436-4882.

NEW OAB SUMMER INTERN

Michael Talbert, a recent political science/justice studies graduate of Frostburg State University in Frostburg, Maryland, has begun a summer internship with OAB. Talbert will be working on a number of projects including the International Biosafety Symposium that will take place in Monterey, CA later this year, ABRAC meetings, public education activities, and consumer information activities. He previously interned for USDA's Agricultural Research Service in their insect and pathology laboratories. Talbert can be reached at 703-235-4419.

PLANS FOR ALTERNATIVE PEST CONTROL CENTER

USDA'S Cooperative State Research Service is helping to fund an Alternative Pest Control Research Center at the University of Arkansas. The facility will be used for general research and teaching activities as well as for pest projects. The Center will include laboratories and greenhouses used for genetically altered organisms and plants. The facility will strengthen the Center's programs to develop new technology for integrated pest management, host plant resistance, and biological pest control to help Arkansas farming adapt to increasing restrictions on the use of chemical pesticides.

NEWS AROUND THE NATION (AND THE WORLD)

HERMAN BECOMES A FATHER

Herman, the transgenic bull who carries the human gene for lactoferrin, recently became the father of at least eight calves, and each one inherited the gene for

lactoferrin production. Lactoferrin is an iron-containing protein that is essential for infant growth. Since cows milk doesn't contain lactoferin, infants must be fed from other sources that are rich in iron -- formula or mother's milk. With the success of Herman and his progeny, however, a new source of nutritious milk may become available. This scientific advancement could have far reaching effects for children in developing nations.

Herman was genetically engineered in a laboratory at the early embryo stage. Scientists microinjected cells with the gene coding for lactoferrin. The scientists then cultured the cells in vitro to embryo stage and transferred them to recipient cattle. Herman was engineered by Gen Pharm International of Mountain View, CA, and the calves were born following a breeding program established at Gen Pharm's European laboratory in Leiden, Netherlands.

BIOTECH TOMATO HEADED FOR GROCERY STORES

On May 18, the Food and Drug Administration (FDA) approved as safe Calgene's new FLAVR SAVR tomato. This tomato is the first whole food developed through biotechnology to be made available to consumers. Other genetically engineered foods, however, are in the pipeline and could come to market in the next few years. They include cooking oils with lower fat and crops that require fewer pesticides and fertilizers.

According to Calgene, the new tomato will stay firm and fresh about a week longer than other tomatoes. Using biotechnology to delay the ripening process, producers will now be able to pick the tomatoes when they are ripe instead of green and ship them long distances without the risk of rotting.

The tomatoes will be marketed under the name "MacGregor's" and will first appear in grocery stores in the next two weeks in California and the Midwest. Calgene will label the product, although FDA said special labeling is not necessary since the tomato maintains the essential characteristics of traditionally developed tomatoes. For more details, please call Brad Stone at FDA at 202-205-4144.

BOTTOMS UP!

A Chardonnay grapevine has been genetically engineered to resist a lethal virus and is ready for field testing, according to the French company Moet and Chandon. In the past, researchers have only been successful in modifying grape rootstocks. Moet says it will be about 10 years before the grapevine reaches the commercialization stage.

French scientists worked with the Chardonnay cultivar to make it resistant to Grapevine Fanleaf Virus, which causes a malformation of the plant and a yellow discoloration. Nematodes spread the virus. Farmers used to spray the vines to kill the virus, but the chemical was found to be toxic and leaked into groundwater. Now, the only effective procedure is to uproot the plants, fumigate the soil, and wait one year before replanting. The new plants take five to seven years to produce grapes.

Moet plans to begin field testing next year following approval from the French government. It is estimated that about 10 percent of all U.S. vineyards are affected by the same virus. According to *Genetic Engineering News*, Moet plans to work on some kind of licensing agreement with U.S. growers.

NEW BIOTECH CENTER STARTED

Groundbreaking began for the new Virginia Biotechnology Center in Richmond, Virginia, May 17. At the ceremony, Virginia Governor George Allen said the park is a step forward into the 21st century. The mission of the park is to develop Virginia's biomedical and biotechnology industries, to foster technology transfer, and to create jobs and revenue.

The 22-acre, \$50 million site is in downtown Richmond and adjacent to Virginia Commonwealth University's Medical College. Funding was provided by business, local and state government, trade associations, and universities.

CLASSES OFFERED IN BIOTECHNOLOGY

Biotechnology Training Programs of Newmarket, New Hampshire is offering a variety of technical courses related to biotechnology throughout the year and at various locations around the country. Some of the classes are DNA sequencing, introduction to PCR, basic cloning, and introduction to mycobacteriology. For more information and a course schedule, please call Susannah Chance at 1-800-821-4861; Fax: 603-659-4708.

The Ohio State Biotechnology Center is offering a 2-week workshop on recombinant DNA, August 1 to August 12. This is a hands-on workshop that consists of both lectures and lab sessions. For details call 614-292-5670; Fax: 614-292-5379.

NEW INTERNATIONAL BIOTECHNOLOGY ADVISORY COMMISSION

An international Biotechnology Advisory Commission has been established by the Stockholm Environment Institute. It will, on request, provide countries with impartial

advice for evaluating biotechnology products prior to their release into the environment. The Commission's review could be especially helpful to those nations just entering the biotechnology arena and in need of expert advice.

Commission members are based in 11 countries around the world. Their fields of expertise include ecology, genetics, biochemistry, molecular biology, entomology, marine biotechnology, plant pathology, law, and economics. Terry Medley, Acting Director of USDA's Food Safety and Inspection Service, is a member of the Commission. For more details, please call Robert Frederick, executive secretary, at 46-8-723-0260; Fax: 46-8-723-0348.

TRANSGENIC FLAX SOON TO BE COMMERCIALIZED

Flax is important in Western Canada; it is the fifth largest crop grown in Saskatchewan. But because of the high content of herbicides in the soil, farmers are not able to plant it year after year. Now scientists at the University of Saskatchewan Crop Development Centre have engineered a commercial transgenic flax that will grow on farmland with high herbicide residues. The new flax should be on the market in the next couple of years.

NEW PUBLICATIONS

■ *Tools for Teaching Biotechnology: A Bibliography of Resources*. Published by the Biotechnology Industry Organization. Currently in press. Call 202-857-0244.

■ Proceedings of the conference "Future Genetics for the Animal Industry," held May 4 in St. Louis, MO. Sponsored by USDA's Agricultural Research Service, the Office of Agricultural Biotechnology, and Iowa State University. To receive a copy, please write to Professor A. E. Freeman, College of Agriculture, Department of Animal Science, Iowa State University, 230 Kildee Hall, Ames, Iowa 50011-3150.

■ *Biotechnology Applications of Microinjection, Microscopic Imaging, and Fluorescence*. Published by Plenum, New York, NY, 1993. To order call 212-620-8468.

■ *Biotechnology and Bioactive Polymers*. Edited by C. Gebelein and C. Carraher. Published by Plenum, New York, NY, 1994. To order call 212-620-8468.

UPCOMING MEETINGS

June 9: Symposium on "Basic and Applied Aspects of Aquatic Biotechnology Research." Windsor, Ontario, Canada. Takes place at the International Association of Great Lakes Research Annual Meeting, June 5-9. For details contact Jeffrey Ram, Wayne State University, Detroit, MI 48201; or send a fax to 313-577-5494.

June 18-23: "Molecular Genetics and Ecology of Pesticide Resistance. Big Sky, Montana. Sponsored by the American Chemical Society. Call 202-872-6286; Fax: 202-872-6128.

June 19-25: International Association for Genetics in Aquaculture, 5th Symposium. Halifax, Canada. Write to Pamela Gaines, Marine Gene Probe Lab., Biology Dept., Dalhousie Univ., Halifax, NS B3H 4J1, Canada.

June 22-25: First International Conference on Risk Assessment Methodology. College Park, MD. Sponsored by USDA, EPA, and Environment Canada. Call Maury Levin at 301-405-1056 or 301-405-4560; Fax: 301-314-9032.

June 25-28: "Second International Weed Control Congress." Copenhagen, Denmark. Co-sponsored by the International Weed Science Society and the European Weed Research Society. For details write to ICS, International Conference Services A/S, Strandvejen 171, P.O. Box 41, DK-2900, Hellerup, Denmark.

June 26-July 1: Genetics of Industrial Microorganisms, 7th International Symposium. Montreal, Canada. Write to Symposium Secretariat, GIM '94, National Research Council. Canada, Ottawa, Ontario K1A 0R6, Canada.

June 27-July 1: "Genetic Engineering of Plant Secondary Metabolism." Write Gary Kuroki, DNA Plant Technology Corp., 6701 San Pablo Ave., Oakland, CA 94608; Fax: 510-547-2817.

July 3-8: "Seventh International Congress of Bacteriology and Applied Microbiology Division and the Mycology Division." Prague, Czech Republic. Sponsored by the Czechoslovak Society for Microbiology. For details write to SCS Travel Agency Ltd., IUMS Congresses '94, Botická 4, 128 00 Prague 2, Czech Republic; or call 42 2 297 698; Fax: 42 2 299 955.

July 4-6: Biotech '94. 2nd UK Congress on Biotechnology. Brighton, UK. Call 44-0788-578-214; Fax: 44-0788-577-182.

July 4-8: International Symposium/Workshop on Environmental Biotechnology. University of Waterloo, Waterloo, Canada. Call 519-746-4979.

July 17-24: Genetics and Molecular Biology of Plant Nutrition, 5th International Symposium. Davis, CA. Call 916-752-1711; Fax: 916-752-4361.

July 30-Aug. 3: Annual Meeting of the American Society of Plant Physiologists. Portland, Oregon. For details call 301-251-0560; Fax: 301-279-2996.

Aug. 6-10: American Phytopathological Society Annual Meeting. Albuquerque, New Mexico. Write to APS, 3340 Pilot Knob Rd., St. Paul, MN 55121.

Aug. 8-12: International Marine Biotechnology Conference '94. Tromsø, Norway. For details write to Harlyn O. Halvorson, Director, Policy Center for Marine Bioscience and Technology, University of Massachusetts Dartmouth, Dartmouth, MA 02747-2300; Fax: 508-999-8901.

Aug. 15-19: A course on fermentation technology. Sponsored by the Massachusetts Institute of Technology, Cambridge, MA. Contact Arnold Demain at 617-253-1711; Fax: 617-253-8550; E-mail: demain@mit.edu

Sept. 11-14: "The Methodology of Plant Genetic Manipulation." Cork, Ireland. Send a fax to Professor A. Cassells at 353-21-274420.

NOTES

Biotechnology Notes is written by Marti Asner, public affairs specialist in USDA's Office of Agricultural Biotechnology. Any comments or suggestions may be sent to USDA/OAB, Room 1001, Rosslyn Plaza-E, 14th and Independence Ave., S.W., Washington, DC 20250-2200. Telephone: 703-235-4419; Fax: 703-235-4429; e-mail: masner@csrs.esusda.gov. This news publication is also accessible on Internet via Gopher.

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